

We claim:

1 1. A method carried out in a computer for providing periodic verification of
2 the computer during requests from the computer to a second computer over a
3 communications system, the method comprising:
4 establishing an authentication handshake with the second computer; and
5 periodically sending messages to the second computer,
6 wherein the second computer services the requests if the messages are
7 valid and are received within a predetermined time interval.

1 2. The method of Claim 1 wherein the authentication handshake
2 comprises an exchange of a session key and a sequence value.

1 3. The method of Claim 2 wherein the messages further comprise the
2 session key and the sequence value.

1 4. The method of Claim 3 wherein the session key and the sequence
2 value are processed through a one-way hash function.

1 5. The method of Claim 1 wherein the requests are to send data.

1 6. The method of Claim 1 wherein the requests are to receive data.

1 7. A method carried out in a computer for providing periodic verification of
2 a second computer during requests from the second computer to the computer
3 over a communications system, the method comprising:
4 establishing an authentication handshake with the second computer;
5 periodically receiving messages from the second computer; and
6 servicing the requests if the messages are valid and are received within a
7 predetermined time interval.

1 8. The method of Claim 7 wherein the authentication handshake
2 comprises an exchange of a session key and a sequence value.

1 9. The method of Claim 8 wherein the messages further comprise the
2 session key and the sequence value.

1 10. The method of Claim 9 wherein the session key and the sequence
2 value are processed through a one-way hash function.

1 11. The method of Claim 7 wherein the requests are to send data.

1 12. The method of Claim 7 wherein the requests are to receive data.

1 13. A computer storage system comprising:
2 a first computer coupled to a communications system; and

3 a second computer coupled to the communications system,

4 wherein:

5 the first computer establishes an authentication handshake with the
6 second computer and periodically sends messages to the second
7 computer;

8 the first computer sends requests to the second computer; and

9 the second computer services the requests if the messages are
10 valid and are received within a predetermined time interval.

1 14. The system of Claim 13 wherein the authentication handshake
2 comprises an exchange of a session key and a sequence value.

1 15. The system of Claim 14 wherein the messages further comprise the
2 session key and the sequence value.

1 16. The system of Claim 15 wherein the session key and the sequence
2 value are processed through a one-way hash function.

1 17. The system of Claim 13 wherein the requests are to send data.

1 18. The system of Claim 13 wherein the requests are to receive data.

1 19. A computer storage system comprising:

2 a first computer coupled to a communications system; and
3 a second computer coupled to the communications system,
4 wherein:
5 the first computer establishes an authentication handshake with the
6 second computer and periodically receives messages from the second computer;
7 and
8 the first computer receives requests from the second computer and
9 services the requests if the messages are valid and are received within a
10 predetermined time interval.

1 20. The system of Claim 19 wherein the authentication handshake
2 comprises an exchange of a session key and a sequence value.

1 21. The system of Claim 20 wherein the messages further comprise the
2 session key and the sequence value.

1 22. The system of Claim 21 wherein the session key and the sequence
2 value are processed through a one-way hash function.

1 23. The system of Claim 19 wherein the requests are to send data.

1 24. The system of Claim 19 wherein the requests are to receive data.

1 25. A method carried out in a computer for providing periodic verification
2 of at least two second computers during requests from the at least two second
3 computers to the computer over a communications system, the method
4 comprising:

5 establishing authentication handshakes with each of the at least two
6 second computers;

7 periodically receiving messages from the at least two second computers,
8 wherein the messages are different from each other; and

9 servicing the requests from the at least two second computers if their
10 corresponding messages are valid and received within a predetermined time
11 interval.

1 26. The method of Claim 25 wherein the authentication handshakes
2 comprise exchanges of at least two session keys and at least two sequence
3 values.

1 27. The method of Claim 26 wherein the messages further comprise the at
2 least two session keys and the at least two sequence values.

1 28. The method of Claim 27 wherein the at least two session keys and the
2 at least two sequence values are processed through a one-way hash function.

1 29. The method of Claim 27 further comprising:

2 reading a table for information to use in determining expected messages
 3 for each of the at least two second computers, wherein the table includes
 4 identifiers associated with the at least two second computers, session keys
 5 associated with the at least two second computers, and sequence values
 6 associated with the at least two second computers;
 7 determining the expected messages for each of the at least two second
 8 computers; and
 9 validating that the expected messages for each of the at least two second
 10 computers are identical to each of their corresponding messages from the at
 11 least two second computers.

1 30. A method carried out in a computer for providing periodic verification
 2 of the computer during requests from the computer to a second computer over a
 3 communications system, the method comprising:
 4 establishing an authentication handshake with the second computer,
 5 wherein the authentication handshake includes a session key and a sequence
 6 value; and
 7 periodically sending messages to the second computer, wherein the
 8 messages include the session key and the sequence value,
 9 wherein the second computer services the requests if the messages are
 10 valid and are received within a predetermined time interval.

1 31. The method of Claim 30 wherein the requests are to send data.

1 32. The method of Claim 30 wherein the requests are to receive data.

1 33. A method carried out in a computer for providing periodic verification
2 of the computer during requests from the computer to a second computer over a
3 communications system, the method comprising:

4 establishing an authentication handshake with the second computer,
5 wherein the authentication handshake includes a session key and a sequence
6 value; and
7 periodically sending messages to the second computer, wherein the
8 messages include the session key and the sequence value which are processed
9 through a one-way hash function,
10 wherein the second computer services the requests if the messages are
11 valid and are received within a predetermined time interval.

1 34. The method of Claim 33 wherein the requests are to send data.

1 35. The method of Claim 33 wherein the requests are to receive data.

1 36. A method carried out in a computer for providing periodic verification
2 of a second computer during requests from the second computer to the computer
3 over a communications system, the method comprising:

4 establishing an authentication handshake with the second computer,
5 wherein the authentication handshake includes a session key and a sequence
6 value;
7 periodically receiving messages from the second computer, wherein the
8 messages include the session key and the sequence value; and
9 servicing the requests if the messages are valid and are received within a
10 predetermined time interval.

1 37. The method of Claim 36 wherein the requests are to send data.

1 38. The method of Claim 36 wherein the requests are to receive data.

1 39. A method carried out in a computer for providing periodic verification
2 of a second computer during requests from the second computer to the computer
3 over a communications system, the method comprising:
4 establishing an authentication handshake with the second computer,
5 wherein the authentication handshake includes a session key and a sequence
6 value;
7 periodically receiving messages from the second computer, wherein the
8 messages include the session key and the sequence value which are processed
9 through a one-way hash function; and
10 servicing the requests if the messages are valid and are received within a
11 predetermined time interval.

1 40. The method of Claim 39 wherein the requests are to send data.

1 41. The method of Claim 39 wherein the requests are to receive data.

1 42. A computer-executable process stored on a computer-readable
2 medium, the computer-executable process generating periodic verification of a
3 computer during requests from the computer to a second computer over a
4 communications system, the computer-executable process comprising:
5 code to establish by the computer an authentication handshake with the
6 second computer, wherein the authentication handshake includes a session key
7 and a sequence value; and
8 code to periodically generate and send messages to the second
9 computer, wherein the messages include the session key and the sequence
10 value which are processed through a one-way hash function.

1 43. A computer-executable process stored on a computer-readable
2 medium, the computer-executable process generating periodic verification of a
3 computer during requests from a second computer over a communications
4 system, the computer-executable process comprising:
5 code to establish by the computer an authentication handshake with the
6 second computer;

7 code to periodically receive messages from the second computer
8 messages; and
9 code to service the requests if the messages are valid and are received
10 within a predetermined time interval.

1 44. The method of Claim 43 wherein the requests are to send data.

1 45. The method of Claim 43 wherein the requests are to receive data.

1 46. A method carried out in an intelligent storage device for providing
2 periodic verification of a computer during requests from the computer to the
3 intelligent storage device over a communications system, the method comprising:
4 establishing an authentication handshake with the computer, wherein the
5 authentication handshake includes a session key and a sequence value;
6 periodically receiving messages from the computer, wherein the
7 messages include the session key and the sequence value which are processed
8 through a one-way hash function; and
9 servicing the requests if the messages are valid and are received within a
10 predetermined time interval.

1 47. A method carried out in a computer for providing periodic verification
2 of the computer during requests from the computer to an intelligent storage
3 device over a communications system, the method comprising:

4 establishing an authentication handshake with the intelligent storage
5 device, wherein the authentication handshake includes a session key and a
6 sequence value; and
7 periodically sending messages to the intelligent storage device, wherein
8 the messages include the session key and the sequence value which are
9 processed through a one-way hash function,
10 wherein the intelligent storage device services the requests if the
11 messages are valid and are received within a predetermined time interval.